

**CTDSP1 Antibody (N-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP8461a****Specification**

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**CTDSP1 Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [O9GZU7](#)**CTDSP1 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 58190**Other Names**

Carboxy-terminal domain RNA polymerase II polypeptide A small phosphatase 1, Nuclear LIM interactor-interacting factor 3, NLI-IF, NLI-interacting factor 3, Small C-terminal domain phosphatase 1, SCP1, Small CTD phosphatase 1, CTDSP1, NIF3, NLIIF, SCP1

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP8461a](/product/products/AP8461a) was selected from the N-term region of human CTDSP1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**CTDSP1 Antibody (N-term) Blocking Peptide - Protein Information****Name** CTDSP1**Synonyms** NIF3, NLIIF, SCP1**Function**

Preferentially catalyzes the dephosphorylation of 'Ser-5' within the tandem 7 residue repeats in the C-terminal domain (CTD) of the largest RNA polymerase II subunit POLR2A. Negatively regulates RNA polymerase II transcription, possibly by controlling the transition from initiation/capping to processive transcript elongation. Recruited by REST to neuronal genes that contain RE-1 elements, leading to neuronal gene silencing in non-neuronal cells.

**Cellular Location**

Nucleus. Note=Colocalizes with RNA polymerase II

**Tissue Location**

Expression is restricted to non-neuronal tissues. Highest expression in skeletal muscle, spleen, lung and placenta

**CTDSP1 Antibody (N-term) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

**CTDSP1 Antibody (N-term) Blocking Peptide - Images****CTDSP1 Antibody (N-term) Blocking Peptide - Background**

CTDSP1 is a class 2C phosphatase with activity dependent on the conserved DxD motif. Expression of CTDSP1 inhibited activated transcription from several promoter-reporter gene constructs, but expression of a mutant lacking phosphatase activity enhanced transcription. Neuronal gene transcription is repressed in nonneuronal cells by the repressor element-1 (RE1)-silencing transcription factor/neuron-restrictive silencer factor (REST/NRSF; 600571) complex. REST/NRSF recruits SCPs to neuronal genes that contain RE1 elements, leading to neuronal gene silencing in nonneuronal cells. Phosphatase-inactive forms of SCP interfere with REST/NRSF function and promote neuronal differentiation of P19 stem cells. Likewise, small interfering RNA directed to the single Drosophila SCP unmasks neuronal gene expression in S2 cells. Thus, SCP activity is an evolutionarily conserved transcriptional regulator that acts globally to silence neuronal genes.

**CTDSP1 Antibody (N-term) Blocking Peptide - References**

Yeo, M., et al., Science 307(5709):596-600 (2005).Fernandes, A.O., et al., J. Neurosci. Res. 75(4):461-471 (2004).Yeo, M., et al., J. Biol. Chem. 278(28):26078-26085 (2003).Ma, X., et al., J. Hum. Genet. 47(3):140-145 (2002).Marquet, S., et al., Mamm. Genome 11(9):755-762 (2000).